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Evaluation effect of management information system implementation on personnel resistance causes in Isfahan power plant management corporation in Iran

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Abstract

The objective of the present research is to assess roles of management information system implementation on personnel and managers resistance causes in Isfahan Power Plant Management Corporation in Iran.

The research questions were based on effects of management information system implementation on individual, group – social and organizational resistance causes of personnel and managers.

With regard to this matter, in this research, the researchers intended to study the effects of management information system implementation on the resistance causes of personnel. Thus the research methodology has been of descriptive with survey research.

The findings of research indicated that management information system implementation created individual resistance causes in personnel. But has not created group – social and organizational resistance causes on personnel. Thus, overall it was concluded that management information system implementation created personnel resistance causes. On the other hand, research findings showed that management information system implementation did not create individual, group – social resistance causes on managers. But created organizational resistance causes. Overall, it was concluded that management information system implementation did not create managers resistance causes.

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1 .Introduction

Every aspect of management in the modern age relies heavily on information to thrive. Today nothing moves forward without information and it is generally believed that information is power and that he who has it has power. Changing circumstances and environments have necessitated the need for the proper dissemination of information

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at various levels of management][1.]

An information system is a set of components which collect, retrieve, process, store and transfer information with the purpose of decision-making, control and analysis for management and relates the subsets of an organization[3].

There are several reasons for failure of information systems in the organizations .Generally speaking, a project fails when it cannot be appropriately responsive to the determined goals, expectations and specific features of that project .Some of the above mentioned reasons for the failure of information systems' set up are as of the following : 1 .Human factors 2 .Technical factors 3 .Managerial factors and 4.Economy factors [4.][The present study aims to investigate the failure reasons of information systems from the point of human factors' perspective .

There are different types of information systems which are developed based on organizations' needs .One of them is management information system which is studied and analyzed in this study.

Since any kind of changes in the organizations such as setting up a management information system is naturally resisted by the personnel of those organizations, a recognition and detection of the reasons behind such plans and trying to reduce such causes of resistance plays a major role in the appropriate implementation of these systems . Recognitions of such resistances helps top managers to reduce the probability of their organizational failure and increases the probability of their success which may results in productivity and effectiveness of their organizations.

The objective of present study is to investigate the effect of management information system implementation on personnel resistance causes in Isfahan Power Plant Management Corporation in Iran..Therefore it seeks to determine the role that management information system implementation plays in the causes behind personnel resistance in Isfahan Power Plant Management Corporation in Iran.

2.Information systems

Obrin)1997(believes that there are two types of information systems :1 .Operation support systems which supports the required information processing for daily business affairs and transactions 2 .Management support systems which supports the prerequisite for top, middle and supervisory levels management decision making][6.]

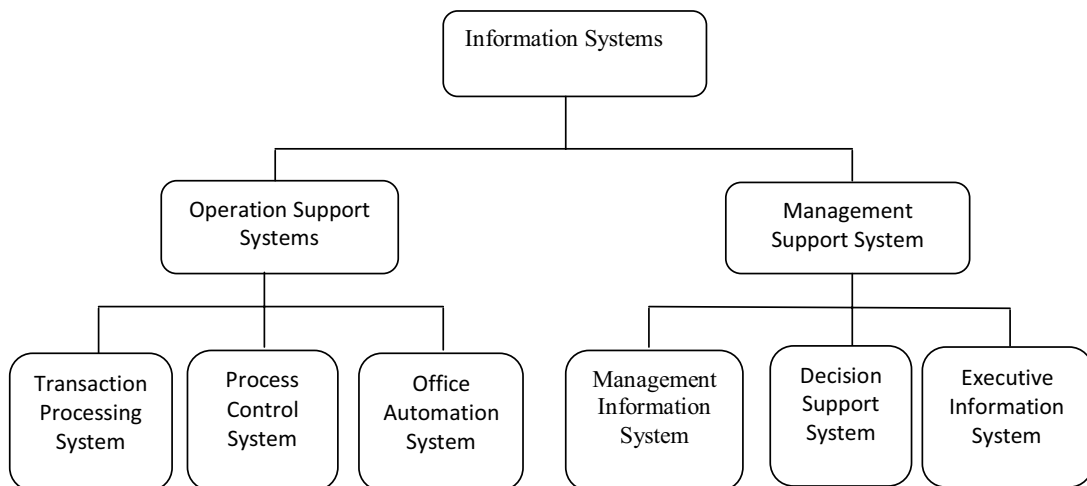


Figure 1 :Kinds of Information systems][2.]

Management information system is one of the second generation information systems which was designed in the middle of 1960s in order to obviate managers' needs [8.][Management information system is a system which primarily collects data, records and filters organizational operation and finally offers the selected information to managers so they can produce the information needed for decision making][5.]

3. Resistance to change

According to Zander as the first person who ever conducted research on resistance, it is defined as the behaviour of individuals towards protection of themselves against the real or imaginary consequences of change[7].

Resistance to change could have different causes. Such causes vary depending on the types of activities of the organizations, type of changes, organizational culture and the personnel values and beliefs.

To understand this matter, It is better to analysis these factors at three levels of individual, group and organizational. It should be mentioned that each of these levels is based on its previous levels and its results depend on the results of the previous level.

The following results are classified in to the three levels based on the causes mentioned in different scientific sources and considering experimental research projects together with the results derived from projects of change in different organizations.

Table 1 :Individual causes behind resistance to change

1. Change in work habits
2. Fear of losing security and job relaxation
3. Lack of economical security
4. Fear of losing job
5. Replacing vague and antitrust instead of awareness and decisiveness in job
6. Fear of losing personal benefits
7. Fear of losing autonomy and freedom at job
8. Fear of losing control at job
9. Feeling of physical or emotional inability towards doing the job using new techniques
10. Feeling not need new methods or feeling of inability to learn new skills for holding the new position
11. Fear of losing the position and job prestige
12. Feel to need a lot of time and energy for adjustment to the new situation
13. Fear of being asked to work harder and more
14. Feeling of being bothered with new methods of doing the job
15. Fear of the need for taking classes and training for new methods
16. Change in current duties and responsibilities of the job
17. Fear of not having enough information about how to work with new systems
18. Feel to have more job knowledge

Table 2 :Group-social causes behind resistance to change

19. Fear of losing friends and friendships and relations with them
20. Fear of Losing interactions with colleagues
21. Being under peer pressure not to accept the change
22. Inconsistency with the values and norms of the group

Table 3 :Organizational causes behind resistance to change

23. Inconsistency with the values and norms of the organization
24. Lack of effective cooperation and coordination in the organization
25. Posing a lot of risk to the organization
26. Posing extra charges to the organization
27. Changing the procedures and regulations of the organization
28. Creation of an atmosphere of distrust in the organization
29. Change in the decision-making power of the organization
30. Fear of having more costs disadvantages than advantages after change
31. The existence of incompatible subsets

4. Methodology of Research

In this research, the researchers intended to study the effects of management information system implementation on the resistance causes of personnel. Thus, the research methodology has been of descriptive with survey research. The statistical population included 138 of personnel and 54 from the managers of Isfahan Power Plant Management Corporation in Iran, in which with regard to that, 72 personnel and 36 managers were selected with the use of random sampling. Information gathering tools included researchers, self made questionnaire which included 31 questions mentioned above in which the reliability coefficient using Cronbach formula was %83 for the personnel and %71 for the managers.

Data analysis in two levels of descriptive statistics (frequency, frequency percentage, mean, standard deviation) and inferential statistics (single variable, analysis of variance ANOVA) has been performed.

5. Research hypotheses

5.1. Major hypotheses

1. Management information system implementation leads to personnel resistance causes in Isfahan Power Plant Management Corporation in Iran.

2. Management information system implementation leads to managers resistance causes in Isfahan Power Plant Management Corporation in Iran.

5.2. Minor hypotheses

1-A (Management information system implementation leads to personnel individual resistance causes.

1-B (Management information system implementation leads to personnel group-social resistance causes.

1-C (Management information system implementation leads to personnel organizational resistance causes.

2-A (Management information system implementation leads to managers individual resistance causes.

2-B (Management information system implementation leads to managers group-social resistance causes.

2-C (Management information system implementation leads to managers organizational resistance causes.

6. Findings of the study

6.1. Testing the first minor hypothesis

H₁: Management information system implementation leads to personnel individual resistance causes.

According to table 4, as the calculated mean 3.3 (is more than average level 3) (and with regard to observed t and the significant level which is less than 0.05) $p < 0.05$, the null hypothesis H₀ is rejected and H₁ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation leads to personnel individual resistance causes in Isfahan Power Plant Management Corporation in Iran.

Table 4. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.000	67	7.8	3.3	3

6.2. Testing the second minor hypothesis

H₁: Management information system implementation leads to personnel group-social resistance causes.

According to table 5, with regard to observed t and the significant level which is more than 0.05) $p > 0.05$ (the H₁ is rejected and null hypothesis H₀ is subsequently confirmed, Therefore with 95 percent certainty it can be concluded that Management information system implementation does not lead to personnel group-social resistance causes in Isfahan power plant Management Corporation.

Table 5. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.39	67	-0.84	2.94	3

6.3. Testing the third minor hypothesis

H₁: Management information system implementation leads to personnel organizational resistance causes.

According to table 6, with regard to observed t and the significant level which is more than 0.05 ($p > 0.05$) the H₁ is rejected and null hypothesis H₀ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation does not lead to personnel organizational resistance causes in Isfahan power plant Management Corporation.

Table 6. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.70	67	-0.37	2.98	3

6.4. Testing the first major hypothesis

H₁: Management information system implementation leads to personnel resistance causes in Isfahan Power Plant Management Corporation.

According to table 7, the calculated mean 3.16 (is more than average level 3) (and with regard to observed t and the significant level which is less than 0.05 ($p < 0.05$), the null hypothesis H₀ is rejected and H₁ is subsequently confirmed. As a result, the conclusion can be drawn with 95 percent certainty that Management information system implementation leads to personnel resistance causes in Isfahan power plant Management Corporation.

Table 7. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.000	67	4.2	3.16	3

6.5. Testing the fourth minor hypothesis

H₁: Management information system implementation leads to managers individual resistance causes.

According to table 8, with regard to observed t and the significant level which is more than 0.05 ($p > 0.05$) the H₁ is rejected and null hypothesis H₀ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation does not lead to managers individual resistance causes in Isfahan power plant Management Corporation.

Table 8. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.41	31	-0.82	2.97	3

6.6. Testing the fifth minor hypothesis

H₁: Management information system implementation leads to managers group-social resistance causes.

According to table 9, with regard to observed t and the significant level which is more than 0.05 ($p > 0.05$) the H₁ is rejected and null hypothesis H₀ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation does not lead to managers group-social resistance causes in Isfahan power plant Management Corporation.

Table 9. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.61	31	-0.51	2.95	3

6.7. Testing the sixth minor hypothesis

H₁: Management information system implementation leads to managers organizational resistance causes.

According to table 10, as the calculated mean (3.26) is more than average level (3) and with regard to observed t and the significant level which is less than 0.05 ($p < 0.05$), the null hypothesis H₀ is rejected and H₁ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation leads to managers organizational resistance causes in Isfahan power plant Management Corporation.

Table 10. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.001	31	3.5	3.26	3

6.8. Testing the second major hypothesis

H₁: Management information system implementation leads to managers resistance causes in Isfahan power plant Management Corporation.

According to table 11, with regard to observed t and the significant level which is more than 0.05 ($p > 0.05$) the H₁ is rejected and null hypothesis H₀ is subsequently confirmed. Therefore with 95 percent certainty it can be concluded that Management information system implementation does not lead to managers resistance causes in Isfahan Power Plant Management Corporation. As the calculated average is almost 3 and is very close to this level, it can be said that Management information system implementation leads to managers resistance causes in Isfahan power plant management to some extent but the whole conclusion is not statistically significant.

Table 11. The results of single-variable t-test

Sig.level	F	t	Mean	Average level
0.27	31	1.1	3.01	3

7. Conclusion

The findings of research indicated that management information system implementation created individual resistance causes in personnel. But management information system implementation has not created group – social

and organizational resistance causes of personnel. Thus, overall it was concluded that management information system implementation created personnel resistance causes.

The ranking of the personnel questions is done through Friedman test as of the following :

Table 12. ranking of the personnel questions

Mean rankings	questions	grade
2.49	The effect of Management information system implementation on personnel individual resistance causes	1
1.78	The effect of Management information system implementation on personnel group-social resistance causes	2
1.74	The effect of Management information system implementation on personnel organizational resistance causes	3

On the other hand, research findings showed that management information system implementation did not create individual, group – social resistance causes on managers. But management information system implementation created organizational resistance causes on managers. Consequently, it was concluded that management information system implementation did not create managers resistance causes.

The ranking of the managers questions is done through Friedman test as of the following :

Table 13. ranking of the managers questions

Mean rankings	Questions	grade
2.45	The effect of Management information system implementation on managers organizational resistance causes	1
1.80	The effect of Management information system implementation on managers group-social resistance causes	2
1.75	The effect of Management information system implementation on managers individual resistance causes	3

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